DOCUMENT RESUME

ED 344 198 CS 010 909

AUTHOR Whitney, Patricia
TITLE Children's Locus of Control and Intrinsically Motivated Reading.
PUB DATE Dec 91
NOTE 36p.; Paper presented at the Annual Meeting of the National Reading Conference (41st, Palm Springs, CA, December 3-7, 1991).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Grade 6; *Independent Reading; Intermediate Grades; *Locus of Control; Reading Attitudes; Reading Research; *Student Motivation
IDENTIFIERS California (San Francisco); *Reading Motivation

ABSTRACT

A study investigated the relationship between locus of control and intrinsically motivated reading for children. The entire sixth grade, totalling 53 students, of a parochial school in San Francisco was administered the Children's Nowicki-Strickland Internal-External Control Scale. A free-choice paperback reading rack provided the measure for intrinsically motivated reading. To test the hypothesis that students with an internal locus of control would be more productive readers than those with an external locus of control, a matched sample was drawn. The t-test for matched samples and the Pearson product-moment both indicated non-significant differences between intrinsic motivation of internal and external subjects. The most revealing factor was that the students felt they were "too busy" for free-choice reading. (Three figures and two tables of data are included; 23 references are attached.) (Author/SR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED344198

Children's Locus of Control and Intrinsically Motivated Reading

National Reading Conference
Palm Springs, California
December, 1991

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Patricia Whitney

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

CS010909

Patricia Whitney, Doctoral candidate
Department of Language Education
Faculty of Education
University of British Columbia

BEST COPY AVAILABLE

Abstract

The purpose of this study was to investigate the relationship between locus of control and intrinsically motivated reading for children. The entire sixth grade, totalling 53 students of a parochial school, was administered the Children's Nowicki-Strickland Internal-External Control Scale (CNSIE). A free-choice paperback reading rack provided the measure for intrinsically motivated reading. To test the hypothesis, a matched sample was drawn. The t-test for matched samples and the Pearson product-moment both indicated non-significant differences. The most revealing factor was that the students felt they were "too busy" for free-choice reading.

Children's Locus of Control and

Intrinsically Motivated Reading

Is the individual driven by his environment, as the Behaviorists believe, or does that individual consciously make decisions and act upon his environment? The latter being the Organismic approach asserts that cognitive and affective processes are taking place: a person is consciously aware that his or her behavior will have certain outcomes. Social learning theory (Rotter, 1966) tries to integrate these two trends in American psychology---the stimulus response or reinforcement theories and the cognitive theories. Behavior, expectancies, psychological situations, and reinforcements are four equal variables from this theory.

Rotter (1975) points out that his theory has two types of expectancies: the expectancy for a certain kind of reinforcement, and the expectancy that generalizes from a series of situations. Expectancy is only one variable in Rotter's social learning theory and it is coupled with the value of reinforcement. This concept of reinforcement is placed on a continuum scale ranging from internal to external. People who believe that their own behavior has everything to do with

receiving that reinforcement are considered to have internal locus of control. Those who believe their behavior has nothing to do with it, that is, the reinforcement is received because of luck, fate, or powerful others, are considered external in their locus of control. Locus of control is defined as a generalized expectancy for internal or external control of reinforcement. The third major variable in Rotter's theory is the psychological situation. The circumstances in which one finds oneself determines the expectancies and the reinforcement value, and these in turn affect behavior potential. Rotter emphatically adds that the predictions of a particular behavior occurring in some situation must also include examination of alternative behaviors in the same situation.

Reinforcement value and its expectancy must be controlled or else measured when working with behavior predictions and locus of control offers this measure. However, when using the measure, Rotter (1975) has implied that it is of a very broad generalized expectancy and that it will allow prediction in a large number of different situations, but at a low level. There seems to be some softening here on Rotter's part since 1966 when he felt "this variable was of major significance in

understanding the nature of learning processes in different kinds of learning situations" (Rotter, 1966, p. 1).

Within the confines of social learning theory, people expect reinforcements--either because of their behavior (internal control) or because of fate (external control). With this expectation, one will behave similarly in similar psychological situations. Deci (1975) has classified Rotter's theory as extrinsically motivated behavior because it centers on rewards. These rewards can be apparent like money, praise, prizes, or unapparent like satisfaction, feelings of competence, and self-determination. The former are examples of extrinsic rewards: the latter are examples of intrinsic rewards. A person who is high on internal locus of control may be motivated intrinsically or extrinsically (Deci, 1975). The external locus of control person will not be affected intrinsically or extrinsically because of the beliefs that behavior has nothing to do with the expected reward, and that rewards are given by powerful others, luck, or fate.

Intrinsic motivation is believed by Deci to be the reason a child would strive for success. At the same time, the outcome of this effort could definitely affect one's expectation.

Therefore intrinsic motivation and locus of control seem closely tied to one another (Stipek & Weisz, 1981).

How locus of control affects the learner in a reading situation has not been investigated as heavily as in other learning situations. Bartel (1971) found that by second grade, first grade reading readiness scores correlated positively with internal locus of control for high-achieving middle class children. Gains in reading comprehension and language mechanics for students whose teachers were internal rather than external in their locus of control were reported by Murray and Staebler (1974). Wooster (1974), in his investigation with boys considered by the British to be educationally subnormal, got better results on a measure of reading ability if their locus of control scores were internal. Matheny and Edwards (1974) also found a statistically significant correlation between locus of control scores and reading achievement. Advanced readers had significantly higher internal locus of control scores in Nielsen and Long's study of high school seniors (1981). However, Nielsen and Long also found that in the best reading groups there was no significance in locus of control for males and females; in the poor reading classes,

though, males had higher internal locus of control scores.

A potentially important academic related behavior that has not been examined, but has been raised in the literature by Stipek and Weisz (1981), is whether internal children spend more time doing academic work (reading) outside of school? In a free-choice reading situation, how would a student react who expects reinforcement? Free-choice reading is defined in this study as academic work performed by the student when and if he or she chooses to do so. Using intrinsic approaches---allowing the students to feel competent and providing them with the opportunity to read what is interesting to them---what will the internally controlled person do when there are no external rewards? How will the externally controlled person react?

To answer these questions, the following hypothesis was tested: students with an internal locus of control will be more productive readers than those with an external locus of control. Productive is defined by the amount of pages read and time spent reading by the student.

Method

Subjects

The entire sixth grade of a parochial elementary school located in San Francisco was used for this study. The group consisted of 53 students, 24 females and 29 males. The ethnic identity included all races, but the Asian segment was the most dominant at 39%. The mean age was 11.75. Socioeconomic status was established using Duncan's Socioeconomic Index, which is a single occupation based scale (Featherman & Hauser, 1977). Forty-one percent of the subjects were grouped under professional and managerial; 29% were categorized in sales, craft, and operatives; and the remaining 30% could be found in the service occupation. The responses made by the children on their father's occupation were verified by school records. All Levels of reading ability and academic achievement were represented.

Instruments

The Children's Nowicki-Strickland Internal-External Control Scale (CNSIE) was used to measure locus of control. This scale is considered appropriate for ages nine to eighteen. The scale has 40 declarative statements that require a yes or

no response circled by the subject. Highest scores reflect an external orientation and lowest scores reflect an internal orientation. Children were read the questions twice while they read from their own copies.

The Bell and Howell Informal Interest Inventory published in 1983 was used to determined the selection of paperback books for the free-choice reading library. This inventory consists of 21 questions in which the respondent either checks off his or her answers into categories or else writes a short answer in the provided blank. The questions focus on personal interests and favorite activities. There are three questions that specifically ask for a particular title or author. The free-reading materials consisted of 106 children's books, 53 titles.

Procedure

One week before the study was to begin, the two teachers met with the researcher and were given the study plan, the interest inventories, permission letters, and a copy of the book report form. During the explanation of the study, it was emphasized that they were not to make suggestions to the students about participating in the free-choice reading

program. Free-choice reading was to be an activity in which the students would participate solely on their own initiative.

Using the Informal Interest Inventory, an assessment was made about the topics these subjects would find of interest. Humor, sports and mysteries were the top three choices. The researcher then set up a spinning rack in each classroom with the same 53 titles. Two containers were also set up in the room: one with book report forms and the other empty. The Nowicki-Strickland LOC scale was administered with the following directions:

> We are trying to find out what boys and girls your age think about certain things. There are no right or wrong answers; it's just how you feel about the items that I read. Circle yes or no. Sometimes you can answer yes and no. Then you decide if it's more yes or more no. Just answer how <u>you</u> think or feel; not your friend or neighbor.

The examiner read each item on the scale twice to make sure all subjects understood the statement. The instruments were collected and the free-choice reading center was introduced and explained to the class.

When you came to school this morning I am sure you noticed something new. I brought this rack filled with paperback books yesterday. This is what I call free-choice reading. I have talked to your teacher about the free-choice reading and she knows that there will be no grades given, no prizes, no rewards. I want to find out which books are popular with your age group. Near the bookstand are two containers. One with book report forms, and one which is empty. Every time you take a book, take a form. If you don't like the book after one page or one chapter, fill out the form, and put the book back in the rack. You can take the books home, overnight, on weekends, vacations, whenever.

This discussion, along with administering the instrument, took 25 minutes in each class. There were four subjects absent during the procedure, and they were given the instrument and instructions separately.

The researcher returned each week for six weeks to replenish and pick up book-report forms. During the six weeks that the study was conducted both classes were home for one

week on Easter vacation and one class was absent from the school grounds an additional week because they went to camp. Since the subjects had been instructed that they could take the books home overnight, weekends, and during vacation, it was felt that such absences from school would not interfere with the free-choice reading productivity.

Additional data were gathered on each subjects's reading level, designated as either high, medium, or low as was academic achievement. These judgements were made by each subject's teacher, as was the reading speed of each subject at either fast, average or slow.

Two weeks after the data for free-choice reading were no longer being collected, a follow-up questionnaire was given to the subjects. Questionnaire A was given to the subjects who had actually participated in the free-choice reading, and Questionnaire B was given to the remaining subjects. Both teachers were also interviewed at this time to determine reading programs, changes in attitudes, and types of procedures established for the reading rack during the six weeks the study was in operation.

Results

Preliminary Analysis

Following the same procedure for scoring as Nowicki and Walker (1973), median splits were made for each sex group. The median for females was 13 and for males 12. One male was eliminated since his score fell at 13. The mean of internal scores was 10.58 with a standard deviation of 2.54 for girls, and the mean of internal scores for boys was 9.93 with a standard deviation of 1.90. The mean of external scores was 16.25 with a standard deviation of 1.65 for the females, and for the males the mean of external scores was 17.35 with a standard deviation of 2.70.

With as gross a measure as median splits to determine the internals and externals, it was necessary to compare the sample population to a theoretical population. Median splits may have the effect of the sample setting its own standard for locus of control. To avoid this effect, the sample group was compared to the population on which Nowicki and Strickland (1973) standardized the locus of control scale. The t-test was used to compare the means of the two samples to determine if the means of the theoretical population were or were not

significantly different from the means of the sample. No significant difference was found ($t = -.00767 < -1.96$).

Chi Square as a test of goodness-of-fit was used to examine the distribution of internal and external subjects among the 52 males and females. The difference between observed and expected frequencies was not significant ($x^2 = .077$; df = 1).

Using Duncan's SEI scale (Featherman & Hauser, 1977), the sample population was categorized into various socioeconomic indexes and the Chi Square goodness-of-fit test was used to examine the distribution of internal and external subjects among SES groups. The results again were not significant ($x^2 = .308$; df = 1).

Looking at the total sample population ethnically, Chi Square goodness-of-fit was used to test for differences in the distribution of internal and external subjects among ethnic groups. Although no significance was found ($x^2 = 4.762$; df = 3), it was observed that the Asian females were noticeably more internal than the other females (see Figure 1).

This was not true for Asian males (see Figure 2).

The entire sixth grade, consisting of 53 students, was given

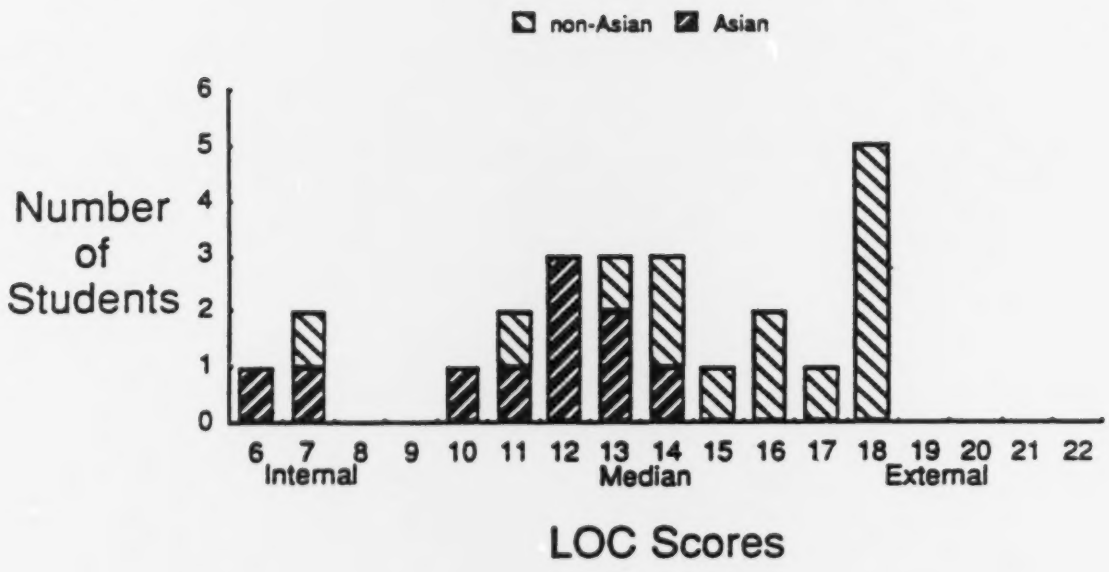

Figure 1. LOC scores for Asian and non-Asian females.

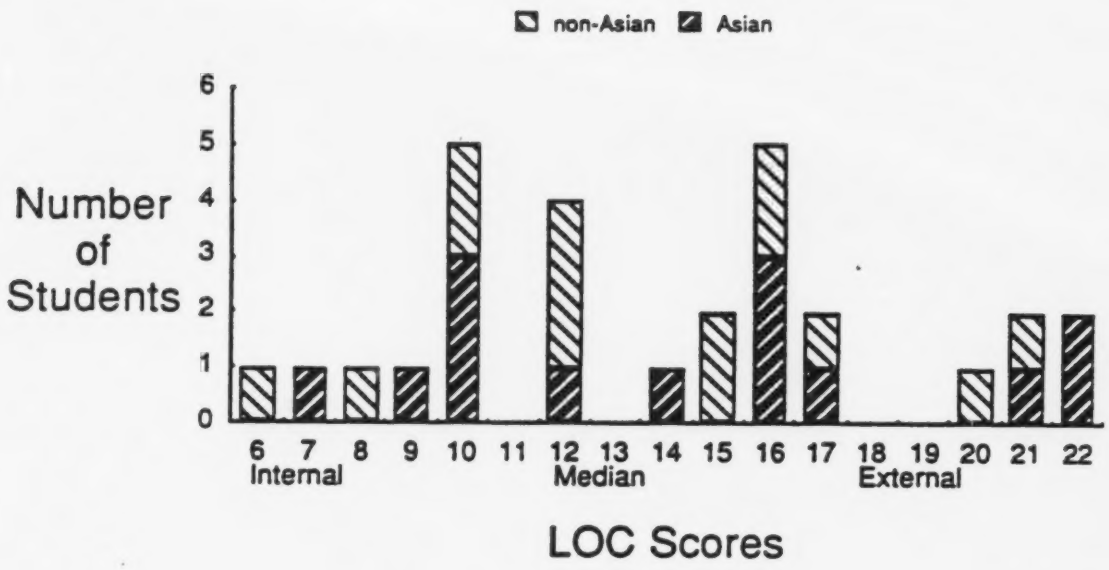

Figure 2. LOC scores for Asian and non-Asian males.

directions for free-choice reading "to participate only if you want to." The number of subjects who chose to participate was 21. The books that these students had chosen to read of their own choice were just about half of the 53 titles.

Main Analysis

A matched sample was drawn from the 52 students to test the hypothesis that there would be a significant difference between intrinsic motivation of internal and external subjects. The null hypothesis was that no significant differences in intrinsic motivation would be found between internal and external subjects. A matched sample on internal and external subjects was matched on three variables---gender, ethnic, reading ability---(N = 13 pairs). The number of pages read was the measure of intrinsic motivation. This sample included children who did not read. The t-test for a matched sample revealed no significant difference (see Table 1), thus the null hypothesis was accepted.

Since there was no significant difference between intrinsic motivation of internal and external students, it could not be said that internals were intrinsically motivated towards reading.

Computation of the Pearson product-moment revealed a negative correlation ($r = -.204$) for this matched sample. This correlation was

Table 1

Comparison of Internal and External LOC Subjects on Means of Number of Pages Read

	Number of Pages Read	M	SD
Internal	587	45.154	109.614
External	492	37.846	81.818

t = .176. p = n.s.

affected by the 17 children who did not read.

Since the matched sample was based on specific variables, some subjects who did participate in free-choice reading did not find themselves in this sample. To completely investigate this relationship between locus of control and intrinsic motivation towards reading, the data for the 21 students who did read needs to be examined. For this group the Pearson product-moment was computed to determine the correlation between locus of control scores and number of pages read. A negative nonsignificant correlation was found ($r = -.327$). Figure 3 shows a scatter graph of these 21 subjects and the number of pages read in free-choice reading. Even in the group that did read, there is no evidence that locus of control affected motivation to read.

Analysis of Questionnaires

Two follow-up questionnaires were given to the 52 students two weeks after the data for free-choice reading were no longer being collected. Questionnaire A was given to subjects who participated in free-choice reading; Questionnaire B was given to subjects who did not participate. Analysis of the questionnaires can be seen in Table 2.

Both teachers reported in the follow-up interview that they had not found it necessary to establish any procedures for using the free-choice reading rack. They verified that the books were not inappropriate and

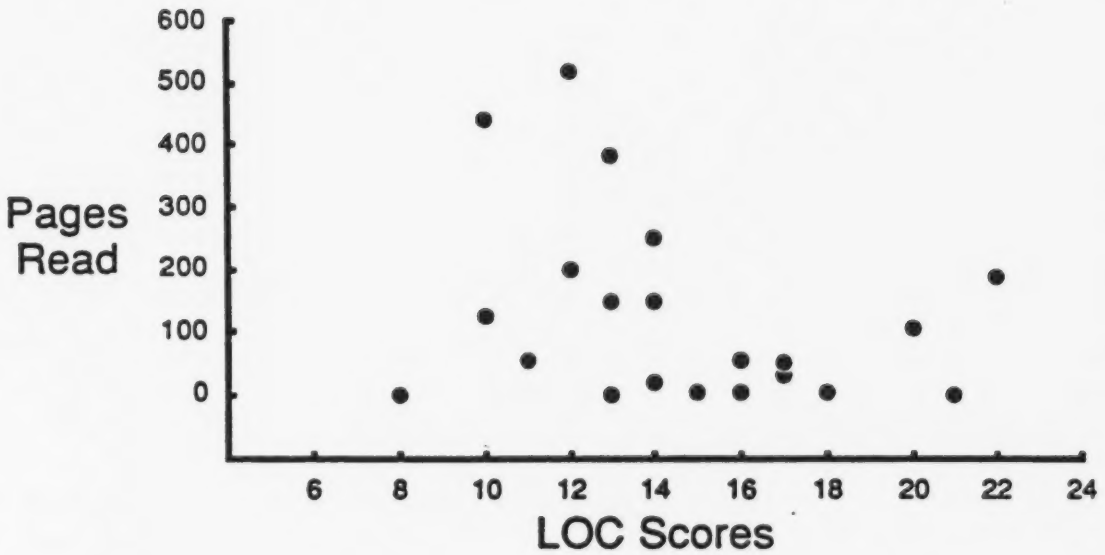

Figure 3. LOC scores correlated with number of pages read.

Table 2

Percentage Responses to Questionnaires

---

1. When could you go to the free-choice reading area?

Whenever	Free-Time	Reading Time	Certain Days	Alone
55%	29%	4%	11%	1%

2. Explanation as to why there were no books in the rack and no filled-out forms in the box:

Forms Were Not Being Used	Kids Were Not Reading	Other
60%	28%	12%

3. Why a student did not participate in free-choice reading?

Too Busy	Didn't Like Books	Didn't Want To Do Forms	Other
77%	6%	10%	7%

"I don't like reading books"--one subject wrote on questionnaire.

4. How many times subjects looked at books but did not take them from the rack:

More Than Once	Once	None
84%	13%	3%

5. When a subject got a book, when did he or she get the book report form?

Same Time	Returned
81%	19%

6. How often did you go to the free-choice reading center?

After the Current Book	Every Week	Every Day
57%	38%	5%

(table continues)

7. Where most free-choice reading took place:

Home	School
71%	29%

8. Participants in a future study would like to record data:

Book Report Form	Notebook or Log
48%	52%

---

that, if any books had been removed, they were removed by the students themselves. Reading programs continued during the six week period of the study and Sustained Silent Reading occurred, but inconsistently.

Discussion

The hypothesis, for this study investigating the relationship between locus of control and intrinsically motivated reading, stated that students with an internal locus of control would be more productive readers than those with an external locus of control. The data were consistent in showing the internals (N = 13 pairs) were not intrinsically motivated towards reading. The measure of intrinsic motivation was the number of pages read by the subject in a free-choice situation where there were other things to do and where there were no external rewards, not even praise, to be gained (Deci, 1975). These findings are somewhat consistent with Dollinger and Thelen (1978) who found no differences in levels of intrinsic motivation between children receiving praise and those receiving no rewards.

With the matched sample consisting primarily of students that had chosen not to participate in free-choice reading (17 out of 26), there are some interesting findings concerning the students that did participate whether they were in the matched sample or not. Both internals (9) and externals (12) engaged in free-choice reading, and although a modest negative relationship (r = -.33) was indicated between locus of control score and the amount of pages read, it is worth noting that the internals averaged 225 pages to the 71 pages averaged

by the externals. After removing two students that may have skewed the data by reading more than 1100 pages between them, the internals still read almost twice as much on the average (130 pages) as the externals (71 pages). As shown in Figure 3 the higher the locus of control score which indicates an external locus, the less free-reading was accomplished.

The locus of control measure, as Rotter (1975) pointed out, allows prediction but at a very low level. Locus of control is the degree to which a person expects his behavior to be rewarded. Internally controlled persons expect that their behavior will make sure that they get the reward. What happened in this study of free-choice reading where rewards were not provided? With 50% of the group classified as internal, only 17% participated in free-choice reading. Thirty-three percent did not participate. How did the externally controlled person react? Twenty-three percent participated in free-choice reading, and 27% did not.

Just as several studies (Brown, Fulkerson, Furr, Ware & Voight, 1984; Barnett & Kaiser, 1977; Sherman, 1984) revealed, there were no significant differences between the locus of control scores of males and females. However, it was found that there were more internal Asian females than non-Asian females, but this difference did not exist

among males. That there were no significant differences between ethnic groups for locus of control scores is consistent with Milgram's (1971) research, and differences on the various SES categories also were not significant. But unlike other studies that categorized subjects as either lower or middle class, this study focused on a more rigorous approach as suggested in Mueller and Parcel (1981).

One weakness that seems to have prevailed in the literature on locus of control studies is the instrument. This study used the Nowicki-Strickland Internal-External Control (CNSIE) (1973). It was chosen because of the low level of reading skill required and the lack of politically tinged items. Gorsuch, Henigham and Barnard (1972) have suggested that reading ability may affect reliability of some scales. Since the directions for administering the Nowicki-Strickland Scale suggested that the examiner read the items aloud twice, it was felt that this would eliminate that particular weakness. However, in future studies, the Intellectual Achievement Responsibility Questionnaire by Crandall (1964) will be used because this scale was developed to deal with children's achievement. In describing this scale the authors state:

> It is aimed at assessing children's beliefs in reinforcement responsibility exclusively in intellectual-academic achievement situations...The

> IAR limits the source of external control to those persons who most often come in face to face contact with a child---his parents, teachers, and peers. (Crandall, Katkovsky & Crandall, 1965, p. 93)

Since Julian Rotter's social learning theory centers on similar psychological situations, the scale that is used to measure the degree of perceived expected reinforcement would probably be of more value if it too focused on similar psychological situations, e.g., the classroom.

Another weakness in this study was the method of collecting the data from the participants in free-choice reading. The researcher suspected that subjects were not filling out the forms. This was verified by 60% of the class in the follow-up questionnaire. However, when given a choice for future studies, those who did participate were divided as to whether they would prefer a notebook or a book report form. The researcher feels that the notebook would provide a tighter control.

During the initial interview with both teachers, the question of free-time for reading or other activities was

discussed at length. Since intrinsic motivation towards reading was going to be measured in a free-choice situation where there were other things to do, it was mandatory to be acquainted with the current policies in the classrooms. The teachers described these policies as follows:

> There is no free-time in our classes. The children have no free-time in the classroom, and really not much free-time at home, because of our homework policy. Since our children do not like to read, except for a few, and there is no free-time, you may be disappointed in the results of your study. Only a few will probably participate.

With 40% of the children participating in free-choice reading, the teachers did correctly predict their students' behavior. What happened to the other 60%? Even though they had virtually chosen the categories, through the informal interest inventory, and the paperback books were attractively displayed in a free-standing spinning rack, their response as to why they did not participate in free-choice reading was that they were "too busy"---77% of the group that did not participate reported "too busy" on their questionnaire. As

Table 2 indicates, they were interested in looking at the books---84% viewed the books more than once---but 77% felt they were "too busy" to read. Is this perception of being "too busy" a reflection of the pressures schools are under to accommodate the curriculum? How does this affect the learning environment? How does this affect reading?

In our busy schools, what happens to the intrinsically motivated learning that is characteristic of children? If the curriculum demands on the school are such that the student perceives that he/she is "too busy" for free-choice reading, how can he or she exercise a curiosity through the different genres? Asking a student to operate on his or her own efforts, and giving time for this activity in the school curriculum, supports the theory that all intelligence should be respected. It has been suggested by Duckworth (1973, 1979) that children's ideas should be respectfully considered in our classrooms and that, when given a choice of activities, subjects can be trusted to choose tasks that are stimulating.

Two of the most productive readers in this study were considered low level readers by their teachers. Between the two of them, they had read 1,112 pages. Since the total pages

read by the population (internals/externals) equaled 2,881 pages, it was impressive that these two readers were as productive as the figures indicate. The most active readers in free-choice reading were students rated in the middle reading group.

The remaining students stated that they were "too busy." The children's perception is testimony that this school does not provide time for reading. Of the subjects who did participate in free-choice reading, 71% reported that they did their reading at home.

What is the role of the school regarding reading? Once the students have been taught to read, does the role of the school stop? Could it be possible that the school would provide time for reading through: Sustained Silent reading on a daily basis; teachers reading aloud to the class; paperback library corners chosen by the students through interest inventories and restocked every six weeks; and reading clubs? The role of the school is to provide an environment that nourishes reading for life. With television and all the other distractions, the schools must make a statement about reading. What a disservice to our children to send them out into the world

without this enjoyment of leisure reading.

How much time schools actually provide for reading---for free-choice reading---is a logical next step to study.

References

Barnett, M. A., & Kaiser, D. L. (1975, May). The relationship between intellectual achievement responsibility attributions and performance. Paper presented at the annual meeting of the Midwestern Psychological Association, Chicago, Il.

(ERIC Document Reproduction Service No. ED 143 977)

Bartel, N. R. (1971). Locus of control and achievement in middle- and lower-class children. *Child Development*, 42, 1099-1107.

Bell & Howell (1983). Informal Interest Inventory.

Brown, D., Fulkerson, D. F., Furr, S., Ware, W. B., & Voight, N. L. (1984). Locus of control, sex role orientation, and self-concept in black and white third- and sixth-grade male and female leaders in a rural community. *Development Psychology*, 20, 717-721.

Crandall, V. C., Katkovsky, W., & Crandall, V. J. (1965). Children's beliefs in their own control of reinforcements in intellectual-academic achievement situations. *Child Development*, 36, 91-109.

Deci, E. L. (1975). Intrinsic Motivation. N.Y.: Plenum Press.

Dollinger, S. J., & Thelen, M. H. (1978). Overjustification and children's intrinsic motivation: Comparative effects of four rewards. *Journal of Personality and Social Psychology*, 36, 1259-1269.

Duckworth, E. (1973). The having of wonderful ideas. In J. Raph & M. Schwebel (Eds.), Piaget in the classsroom. New York: Basic.

Duckworth, E. (1979). Either we're too early and they can't learn it or we're too late and they know it already: The dilemma of "applying Piaget." *Harvard Educational Review* 49, 297-312.

Featherman, D. L., & Hauser, R. M. (1977). Commonalities in social stratification and assumptions about status mobility in the United States. In R. Hauser & D. Featherman (Eds.), The Process of Stratification. New York: Academic Press.

Gorsuch, R. L., Henighan, R. P., & Barnard, C. (1972). Locus of control: An example of dangers in using children's scales with children. *Child Development*, 43, 579-590.

Matheny, K. B., & Edwards, C. R. (1974). Academic improvement through an experimental classsroom management system. *Journal of School Psychology*, 12, 222-232.

Milgram, N. A. (1971). Locus of control in negro and white children at four age levels. *Psychological Reports*, 29, 459-465.

Mueller, C. W., & Parcel, T. L. (1981). Measures of socioeconomic status: Alternatives and recommendations. *Child Development*, 52, 13-30.

Murray, H. B., & Staebler, B. K. (1974). Teacher's locus of control and student achievement gains. *Journal of School Psychology*, 12, 305-309.

Nielsen, L., & Long, M. (1981). Why adolescents can't read: Locus of control, gender, and reading abilities. *Reading Improvement*, 18, 339-345.

Nowicki, S., & Strickland, B. (1973). A locus of control scale for children. *Journal of Consulting & Clinical Psychology*, 40, 148-154.

Nowicki, S., & Walker, C. (1973). Achievement in relation to locus of control: Identification of a new source of variance. *The Journal of Genetic Psychology*, 123, 63-67.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80, 1-28.

Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology*, 43, 56-67.

Sherman, L. W. (1984, August). Developing perceptions of control: Cross-sectional and longitudinal analyses. Paper presented at the annual convention of the American Psychological Association, Toronto, Canada. (ERIC Document Reproduction Service No. ED 249 458).

Stipek, D. J., & Weisz, J. R. (1981). Perceived personal control and academic achievement. *Review of Educational Research*, 51, 101-137.

Wooster, A. D. (1974). Acceptance of responsibility for school work by educationally subnormal boys. *British Journal of Mental Subnormality*, 20, 23-27.